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09/466,308	12/17/1999	ACHAL R. PATEL	067191.0106	1006

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EXAMINER	
NGUYEN, DAVID Q	

ART UNIT	PAPER NUMBER
2681	20

DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/466,308	PATEL, ACHAL R.	
	Examiner	Art Unit	
	David Q Nguyen	2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 April 2004* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,17-46 and 48-62* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,17-46 and 48-62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-62 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-15,17-46, and 48-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egner et al (US Patent Number 6223041) in view of Obhan (US Patent Number 6366780) and further in view of Vasudevan et al (US Patent Number 6539221).

Regarding claims 1 and 32, Egner et al disclose a system and a method for allocating bandwidth in a wireless communications network comprising a geo-location tool residing on a computers readable medium, the geo-location tool operable to receive data for a wireless communications network including a plurality of geo-location areas (see fig. 1 and 8, abstract; and col. 3, lines 48-60); estimate bandwidth parameters for a geo-location area based on the data (see col. 4, lines 26-38); and an allocation engine residing on the computer-readable medium, the allocation engine operable to allocate bandwidth in the geo-location area based on its bandwidth parameters (see col. 2, lines 39-67). Egner et al are silent to disclose the geo-location tool further

operable to generate, based on the data, a current usage map indicating real-time bandwidth being utilized at the geo-location area, the current usage map being subdivided into a plurality of bins representing the geo-location area, each bin representing the location of a portion of the geo-location area and containing data associated with the corresponding portion of the geo-location area.

However, Obhan discloses the geo-location tool further operable to generate, based on the data, a current usage map indicating real-time bandwidth being utilized at the geo-location area (see col. 2, lines 40-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of the Obhan to Egner et al in order to avoid blocking calls and reserve spectrum within the geo-location area for premium subscribers.

The system and method of Egner in view of Obhan does not disclose the current usage map being subdivided into a plurality of bins representing the geo-location area, each bin representing the location of a portion of the geo-location area and containing data associated with the corresponding portion of the geo-location area.

However, Vasudevan et al disclose a current usage map being subdivided into a plurality of bins representing the geo-location area, each bin representing the location of a portion of the geo-location area and containing data associated with the corresponding portion of the geo-location area is well known in the art (fig. 1-4 and abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of the Vasudevan et al to the system and

method of Egner in view of Obhan in order to determine a value representing estimation of traffic in discrete bins within a geographic area.

Regarding claims 2 and 33, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan and further in view of Vasudevan et al also disclose the geo-location tool further operable to determine an allocation bandwidth for the geo-location area (see col. 4, lines 39-62; col. 12, lines 8-46; and fig. 1 and 8 of Egner); and the allocation engine further operable to allocate bandwidth in the geo-location area based on the allocation bandwidth (see col. 4, lines 39-62; col. 12, lines 8-46; and fig. 8 of Egner).

Regarding claims 3 and 34, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan and further in view of Vasudevan et al also disclose wherein the bandwidth parameters comprise at least one of a bandwidth usage and a bandwidth demand for the geo-location area (see col. 4, lines 26-38 of Egner).

Regarding claims 4 and 35, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan and further in view of Vasudevan et al also disclose wherein the bandwidth parameters comprise bandwidth interference contribution for the geo-location area (see abstract and fig. 1; col. 5, lines 28-31 of Egner).

Regarding claims 5 and 36, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan and further in view of Vasudevan et al also discloses the geo-location tool operable to estimate bandwidth parameters

for the geo-location area on a per service class basis; and the allocation engine operable to allocate bandwidth in the geo-location on the per service class basis based on the bandwidth parameters (see col. 23, lines 1-16; lines 45-47 of Obhan).

Regarding claims 6 and 37, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan and further in view of Vasudevan et al also discloses wherein the data received by the geo-location tool comprises historic and service level data for the wireless communications network (see col.5, lines 41-49 of Obhan).

Regarding claims 7 and 38, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses the geo-location tool further operable to generate, based on the data, a source map comprising sources of bit usage in the geo-location area and to estimate bandwidth parameters for the geo-location area based on the source map (see col. 23, lines 1-16).

Regarding claims 8 and 39, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses wherein the sources of bit usage comprise a high bandwidth use facility for which a contractual service level is provided by the wireless communications network (see col. 23, lines 1-16).

Regarding claims 9 and 40, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses wherein the sources of bit

usage comprise an establishment for which local wireless access is provided by the wireless communications network at a contractual service level (see col. 23, lines 1-16).

Regarding claims 10 and 41, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses wherein the data comprising contractual service level data (see col. 17, lines 40-46).

Regarding claims 11 and 42, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses wherein the data comprises at least one of data measured from usage within the wireless communications network, radio frequency measurement, and interference estimates (see col. 6, lines 35-67).

Regarding claims 12 and 43, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses the geo-location tool further operable to generate, based on the data, a subscriber usage profile indicating the probability of a subscriber engaging in a connection at the geo-location area and to estimate bandwidth parameters based on the subscriber usage profile (see col. 2, lines 40-45).

Regarding claims 13 and 44, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses wherein the subscriber usage profile comprises mobility information for the subscriber (see col. 6, lines 10-15).

Regarding claims 14 and 45, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses wherein the subscriber usage profile comprises service class invocation information for the subscriber (see col. 6, lines 10-15).

Regarding claims 15 and 46, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses wherein the subscriber usage profile comprising call hold information for the subscriber (see col. 6, lines 10-15).

Regarding claims 17 and 48, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses wherein the current usage map comprises a peak rate for each active connection within the geo-location area (see col. 5, lines 41-49).

Regarding claims 18 and 49, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses wherein the current usage map comprises activity and service class information for each active connection within the geo location area (see col. 2, lines 38-46; col. 5, lines 41-49).

Regarding claims 20 and 51, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses the geo-location tool

further operable to generate, based on the data, a current demand map for the geo-location area based on the data (see col. 5, lines 15-23).

Regarding claims 21 and 52, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses a peak rate for each potential connection within the geo-location area (see col. 5, lines 15-22; lines 40-49).

Regarding claims 22 and 53, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan comprising all of the limitations as claimed. Obhan also discloses activity and service class information for each potential connection within the geolocation area (see col. 5, lines 15-22; lines 40-49).

Regarding claims 24 and 55, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses the geo-location tool further operable to generate, based on the data, an expected demand map for the geo-location area based on the data (see col. 6, lines 35-40).

Regarding claims 25 and 56, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses a peak rate for each potential connection within the geo-location area (see col. 5, lines 15-22; lines 40-49).

Regarding claims 26 and 57, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses activity and service class

information for each potential connection within the geolocation area (see col. 5, lines 15-22; lines 40-49).

Regarding claims 19, 23, 27,50,54 and 58, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses primary and neighboring server information for each potential connection within the geo-location area (see col. 6, lines 16-67).

Regarding claims 28 and 59, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses the geo-location tool further operable to generate an interference contribution map indicating the impact on resource usage of supporting various bandwidth at the geo-location area based on the data (see col. 6, lines 57-67).

Regarding claims 29 and 60, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses an interference contribution value and a probability for each of a plurality of service classes associated with bandwidth at one or more sectors within the geo-location area (see col. 6, lines 40-41).

Regarding claims 30 and 61, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses expected resource usage

for each of a plurality of service classes at the geo-location area (see col. 6, lines 57-67; see col. 6, lines 40-41).

Regarding claim 31 and 62, the system and the method for allocating bandwidth in a wireless communications network of Egner et al in view of Obhan further in view of Vasudevan et al comprising all of the limitations as claimed. Obhan also discloses the allocation engine further operable to generate a bandwidth supply map indicating the available bandwidth at the geo-location area based on the allocation bandwidth, a total bandwidth, and an interference contribution bandwidth for the geo-location area (see col. 6, lines 35-67).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Q Nguyen whose telephone number is 703-605-4254. The examiner can normally be reached on 8:30AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Erika A Gary can be reached on 703-308-0123. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

DN
David Nguyen

ERIKA GARY
PATENT EXAMINER